



FIRST Newsletter

February 2023, Issue 79

My Journey to Southern Africa with Crystallography: Part 1

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As Head of Applications SC-XRD, I spend much of my time with our customers, which is one of the reasons I like what I do so much. In fall 2022, I traveled to Southern Africa with an ambitious and filled agenda and was at six different universities giving [training](#) and assistance to several groups using our single-crystal diffractometers. Join me in my journey!



University of Botswana - Garbarone

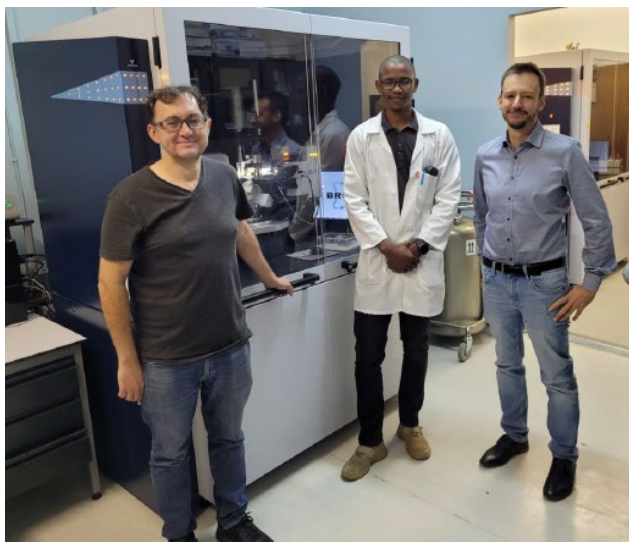
The first stop was at the University of Botswana, recognized as the largest contributor to research output at the national level. I was in Gaborone for two days, with the main goal of delivering training on chemical crystallography. The chemistry department of the university is equipped with a [D8 QUEST ECO](#) diffractometer.

This is the university's first and only diffractometer and will serve their needs both in education and research. Prof. Florence Nareetsile has over twenty-five years of university teaching experience and is now empowering young crystallographers and early career chemists to develop expertise in crystallography in Botswana and the wider Southern African region. The hands-on approach to learning is the most effective method to develop a deep understanding of crystallography and structural chemistry.

Prof. Nareetsile, Senior Technician Stumbo Marape and all other participants were amazed how quickly they could get started and by the fascinating structures they produced. The quality of the results achieved with the D8 QUEST ECO will now support their research in various areas, amongst others: organo-metallics, green synthesis, solid-state transformations, and the investigation of indigenous plants for utilization in medicine and environmental management.

It was a highly rewarding time spent in Botswana, and interesting to learn about the research being carried out at the university. I was really made to feel part of the faculty.

The next day, I took a short flight to Johannesburg, to visit the University of Witwatersrand for a day. There, I had the pleasure to be with our good friends Associate Professor Manuel Fernandes, Professor Andreas Lemmerer, Professor Orde Munro, and



University of Witwatersrand - Johannesburg

Professor Demi Levendis of the Faculty of Science. The group runs two busy [D8 VENTURE](#) diffractometers and we had a packed day discussing tips and tricks for getting the most from their more challenging samples, such as tiny or sensitive crystals, and those with low crystallinity. We also looked into advanced applications, such as high-pressure experiments, protein structure solving, *in situ* X-ray

measurements and optical heating crystallization.

After a good night's sleep, I woke early to join our Service Engineer, Tinus Schutte, at the University of Johannesburg to support the commissioning of their new [D8 QUEST](#). This particular system was previously used in my application lab for high-energy applications. I'm very happy to see it in such good hands.

I then spent the rest of the day with Dr. Banele Vatsha and his colleagues, training them on the instrument. For the first time, they have their own diffractometer, and are able to fully focus on their research in high-pressure applications, in close collaboration with Professor Giovanni Hearne of the physics department.

Another gratifying day came to an end, and I had to prepare for the next one at the University of the Free States, in Bloemfontein.

Join me again for part 2 of my trip to Southern Africa in the next issue, where I will share my experiences in three more stopovers.



University of Johannesburg - Johannesburg

